

## PATENT COOPERATION TREATY

## PCT



## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference	FOR FURTHER ACTION		See Form PCT/IPEA/416
International application No. <b>PCT/KR2004/000731</b>	International filing date(day/month/year) <b>30 MARCH 2004 (30.03.2004)</b>	Priority date (day/month/year) <b>02 APRIL 2003 (02.04.2003)</b>	
International Patent Classification (IPC) or national classification and IPC  <b>IPC7 F25D 23/00</b>			
Applicant  <b>LG ELECTRONICS INC. et al</b>			

<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <u>4</u> sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input type="checkbox"/> (sent to the applicant and to the International Bureau) a total of _____ sheets, as follows:</p> <p style="margin-left: 40px;"><input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p style="margin-left: 40px;"><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>	
<p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the report</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI Certain documents cited</p> <p><input type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input checked="" type="checkbox"/> Box No. VIII Certain observations on the international application</p>	

Date of submission of the demand  <b>15 SEPTEMBER 2004 (15.09.2004)</b>	Date of completion of this report  <b>21 JUNE 2005 (21.06.2005)</b>
Name and mailing address of the IPEA/KR  Korean Intellectual Property Office 920 Dunsan-dong, Seo-gu, Daejeon 302-701, Republic of Korea Facsimile No. 82-42-472-7140	Authorized officer KIM, Eun Rae Telephone No. 82-42-481-5518 

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/KR2004/000731

## Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☒ This report is based on translations from the original language into the following language English which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3 and 23.1(b))
- ☒ publication of the international application (under Rule 12.4)
- ☐ international preliminary examination (under Rules 55.2 and/or 55.3)
2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:
- ☒ the international application as originally filed/furnished
- ☐ the description:
- pages \_\_\_\_\_ as originally filed/furnished
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☐ the claims:
- pages \_\_\_\_\_ as originally filed/furnished
- pages\* \_\_\_\_\_ as amended (together with any statement) under Article 19
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☐ the drawings:
- pages \_\_\_\_\_ as originally filed/furnished
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☐ the sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing.
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, Nos. \_\_\_\_\_
- ☐ the drawings, sheets \_\_\_\_\_
- ☐ the sequence listing (*specify*): \_\_\_\_\_
- ☐ any table(s) related to sequence listing (*specify*): \_\_\_\_\_
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, Nos. \_\_\_\_\_
- ☐ the drawings, sheets \_\_\_\_\_
- ☐ the sequence listing (*specify*): \_\_\_\_\_
- ☐ any table(s) related to sequence listing (*specify*): \_\_\_\_\_

\* If item 4 applies, some or all of those sheets may be marked "superseded."

# INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/KR2004/000731

## Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

### 1. Statement

Novelty (N)	Claims	1 - 7	YES
	Claims		NO
Inventive step (IS)	Claims	1 - 7	YES
	Claims		NO
Industrial applicability (IA)	Claims	1 - 7	YES
	Claims		NO

### 2. Citations and explanations (Rule 70.7)

Reference is made to the following documents:

D1: KP 1997-28334 A (24 June 1997)

D2: JP 8-210761 A (20 August 1996)

D3: JP 5-302781 A (16 November 1993)

#### Novelty and Inventive Step

Claims 1-3 relate to a method for the antibiotic treatment of refrigerator parts, comprising the steps of: extruding the refrigerator parts to be relatively thinner than the finished parts; mixing a resin with a silver-based antibiotic substance having a pellet shape, the weight ratio of the antibiotic substance to the total weight of the mixture being about 0.1-0.05 wt%; and forming an antibiotic layer on the surface of the refrigerator parts by a laminating or multi-extrusion method by using the resin mixed with the antibiotic.

Claim 4 relates to a method for the antibiotic treatment of refrigerator parts comprising the steps of: mixing a resin with a silver-based antibiotic substance having a pellet shape; and injecting the finished parts by using the resin mixed with the silver-based antibiotic substance.

Claims 5-7, which are dependent on claims 2-4, specify the weight ratio of the silver-based antibiotic substance and limit the method for forming the shape of the finished parts.

D1 is similar to claims 1-3 in hot rolling antibiotic film in the extrusion process of refrigerator parts; D2 is similar to claim 4 in manufacturing refrigerator parts from a resin mixed with an antibiotic; and D3 is similar to claims 1-4 in the use of a silver-based compound as an antibiotic for a refrigerator. However, claims 1-7 are different from said documents in that when a resin is mixed with an antibiotic, the antibiotic has a pellet shape.

Therefore, claims 1-7 are considered to be novel and involve an inventive step under PCT Article 33(2)-33(3).

#### Industrial Applicability

Since claims 1-7 relate to a method for manufacturing refrigerator parts having antibiotic activity, the subject matter of claims 1-7 is considered to be industrially applicable under PCT Article 33(4).

**INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY**

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**Box No. VIII Certain observations on the international application**

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

- The present international application was filed on 30 March 2004, the International Search Report and the Written Opinion were issued on 20 July 2004, and the Demand for International Preliminary Examination was filed on 15 September 2004.
- The Written Opinion issued with the International Search Report on 20 July 2004 states that claims 1-7 are considered to be novel, involve an inventive step and industrially applicable.
- The applicant has not filed any amendments to this international application since filing the Demand for the International Preliminary Examination. Therefore, this international preliminary examination report will include the same contents as the Written Opinion.